

Message Text

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ORIGIN COME-00

INFO OCT-01 NEA-10 ISO-00 SS-20 EB-11 SCI-06 INT-08 RSC-01

/057 R

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DRAFTED BY: COM/BIC/OED/MEPD:JPHILBRICK

APPROVED BY: EB/OCA/REP:GPWILSON

COM/BIC/OED/MEPD:LEENGLESON

COM/BIC/OED/MEPD:JMSANDS

STATE/NEA/ARP:GLUMSDEN (PHONE)

COM/BIC/OIM:GBECK (PHONE)

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R 112156Z JAN 74

FM SECSTATE WASHDC

TO AMEMBASSY KUWAIT

INFO AMEMBASSY BEIRUT

UNCLAS STATE 006683

KUWAIT PASS DOHA

E.O. 11652: N/A

TAGS: BMEP, QA

SUBJ: POWER/DESALINATION FACILITY IN QATAR

REF: KUWAIT A-158, DECEMBER 9, 1973

1. COMMERCE DISCUSSED WITH CHEMICO/ENVIROGENICS
PERTINENT PORTION REFERENCED AIRGRAM. CHEMICO
REPORTS IT IS ONLY QUALIFIED SUPPLIER FOR THE TWO
MOST WIDELY ACCEPTED METHODS - MULTI-STAGE FLASH
(MSF) AND VERTICAL TUBE EVAPORATION (VTE) - OF
WATER DISTILLATION.

2. CHEMICO DRAFTED FOLLOWING STATEMENT OF RATIONALE
BEHIND ITS OFFER AND ASKED COMMERCE TRANSMIT IT FOR
POST'S USE IN FUTURE DISCUSSIONS WITH AMIR AND HIS
ADVISORS.

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3. QUOTE: WHILE THERE GENERALLY HAS BEEN MORE EXPERIENCE WITH MSF, THIS EXPERIENCE SERVES PRIMARILY TO ILLUSTRATE IN A UNIVERSALLY REPEATED PATTERN THE INHERENT DISADVANTAGES OF THE PROCESS. CHEMICO PREFERS TO OFFER VTE BECAUSE THE MODERN VERSIONS HAVE RETAINED THE BASIC ADVANTAGES OF MSF BUT HAVE OVERCOME THE DISADVANTAGES, NAMELY

- A. MSF PERFORMANCE DECLINE WITH TIME.
- B. INORDINATELY HIGH MSF RECYCLE PUMPING ENERGY REQUIREMENTS.
- C. THE INHERENT MSF PROCESS INSTABILITY REQUIRING CAREFUL SUPERVISION OF OPERATIONS AND A HIGH DEGREE OF SKILL.

4. VTE SYSTEMS HAVE A SIGNIFICANT AND SUCCESSFUL OPERATING HISTORY, BEGINNING WITH MORE THAN 50 YEARS OF USE IN THE CHEMICAL INDUSTRY PRIOR TO THE COMMERCIALIZATION OF LAND BASED SEA WATER DISTILLATION. SINCE THAT TIME, VTE HAS ACCRUED THE FOLLOWING PERTINENT EXPERIENCE IN DEMONSTRATION AND COMMERCIAL PLANT INSTALLATIONS.

A. FREEPORT, TEXAS, U.S.A. - OWNER OSW/U.S. GOVERNMENT. STARTUP 1961, MODIFIED 1967 AND 1971, SHUTDOWN 1973; CAPACITY 3800 MTD. TERMINATED BECAUSE OF GOVERNMENT PROGRAM TERMINATION. RESULTS: HIGHLY SUCCESSFUL. TYPE: DEMONSTRATION AND PROCESS DEVELOPMENT OPERATIONS.

B. ST. CROIX, U.S. VIRGIN ISLANDS - OWNER, VIRGIN ISLANDS WATER & POWER AUTHORITY. STARTUP 1968, CURRENTLY IN CONTINUOUS COMMERCIAL SERVICE. CAPACITY 3500 MTD. THE INITIAL CARBON STEEL CONSTRUCTION WITH CORROSION ALLOWANCE IN WATER BOXES AND BRINE SUMPS FAILED AND HAS BEEN REPLACED WITH ALLOY OR CEMENT MORTAR LINING. VTE PLANT HAS HIGHEST ON STREAM FACTOR OF 4 PLANS OWNED BY VIWAPA, THE

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OTHER 3 BEING MSF. THE VTE PLANT MAKES LOWEST COST WATER OF ANY. THE TYPE OPERATION IS STRICTLY COMMERCIAL/UTILITY. VIWAPA HAS ORDERED TWO NEW VTE PLANTS OF 8550 MTD CAPACITY EACH.

C. INNOSHIMA, JAPAN - OWNER, HITACHI SHIPBUILDING & ENGINEERING, LTD. STARTUP 1971, OPERATION CONTINUOUS. THERE WAS A TROUBLE-FREE STARTUP

AND OPERATION ABOVE DESIGN CAPACITY AND EFFICIENCY. THE NOMINAL CAPACITY IS 500 MTD. TYPE OF SERVICE - COMMERCIAL WATER SUPPLY FOR SHIPYARD AND TOWN.

D. ODESSA, TEXAS, U.S.A. - OWNER, GENERAL TIRE AND RUBBER CO. STARTUP JANUARY 1972. OPERATION CONTINUOUS. CAPACITY 1800 MTD. THIS PLANT OPERATES ON SALINE WASTE WATER FROM A SNTHETIC RUBBER PLANT. CHANGES IN PROCESS FOR MAKING RUBBER HAVE INTRODUCED HYDROGEN SULFIDE, AND A HIGH ALUM CONTENT. THIS NECESSITATED CHANGING TUBING FROM CUPRONICKEL TO ITANIUM AFTER WHICH OPERATIONS HAVE BEEN CORROSION FREE. THE ALUM TYPE MATERIAL NOW EXISTING IN THE WASTE STREAM GRADUALLY BUILDS UP REQUIRING PERIODIC CLEANING. TYPE OF OPERATION - COMMERCIAL TO PROVIDE HIGH PURITY PROCESS WATER AND REDUCE WASTE STREAM TO THAT WHICH CAN BE EVAPORATED TO DRYNESS IN A LINED SOLAR POND.

E. GIBRALTAR - ENGLISH NAVY. STARTUP MID-1973. OPERATION CONTINUOUS. CAPACITY 1200 MTD. TYPE OF OPERATION IS COMMERCIAL SUPPLY OF WATER TO MILITARY BASE.

F. QATAR - ARABIAN GULF - OWNER, FERTILIZER MFG. PLANT. STARTUP EARLY 1973. OPERATION CONTINUOUS. CAPACITY UNKNOWN, BUT REPORTED TO BE 2 UNITS TOTALING ABOUT 2500 MTD. OPERATIONS REPORTED TO BE EXCELLENT

G. FUKUI, JAPAN - OWNER, KANSAI ELECTRIC. STARTUP OCTOBER 1973. OPERATION INTERMITTENT WHILE BALANCE OF NUCLEAR GENERATING STATION IS COMPLETED. UNIT STARTED UP AND PASSED ACCEPTANCE TEST IN TWO WEEKS. CAPACITY 1200 MTD. TYPE OF OPERATION, COMMERCIAL POTABLE AND BOILER MAKEUP WATER.

5. OF THE FOREGOING FACILITIES, CHEMICO/ENVIROGENICS SUPPLIED THE 1971 MODIFCATION OF A., AND TURNKEY UNCLASSIFIED

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FACILITIES FOR C., D., AND G. IN ADDITION, THEY HAVE BUILT THE 12,000 MTD UNIT IN ORANGE COUNTY, CALIFORNIA WHICH WILL STARTUP IN APRIL, 1974; AND THE ST. CROIX AND ST. THOMAS 8550 MTD UNITS WHICH WILL START UP IN FEBRUARY AND MAY, 1974, RESPECTIVELY. THE EARLY FREEPORT VTE AND THE ST. CROIX VTE WERE BOTH SUPPLIED BY STEARNS-ROGER CORPORATION. THE GIBRALTAR AND QATAR VTE'S WERE SUPPLIED BY AITON, LTD., UNITED KINGDOM.

6. CHEMICO/ENVIROGENICS INTENDS TO ENTER A PROPOSAL FOR THE QATAR DISTILLATION PLANTS WHICH WILL BE WHOLLY ACCEPTABLE TO THE EMIR. END QUOTE

7. SINCE CHEMICO WILL NOT BE BIDDING THE OLDER SYSTEM, ALL EFFORTS THAT THE EMBASSY CAN MAKE TO CONVINCE QATAR

THAT THIS IS NOT AN EXPERIMENT AT ITS POTENTIAL EXPENSE
WILL BE MOST APPRECIATED. RUSH

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Message Attributes

Automatic Decaptioning: X
Capture Date: 01 JAN 1994
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: WATER SUPPLY SYSTEM, DESALINATION
Control Number: n/a
Copy: SINGLE
Draft Date: 11 JAN 1974
Decaption Date: 01 JAN 1960
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Authority: n/a
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01 JAN 1960
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1974STATE006683
Document Source: CORE
Document Unique ID: 00
Drafter: COM/BIC/OED/MEPD:JPHILBRICK
Enclosure: n/a
Executive Order: N/A
Errors: N/A
Film Number: n/a
From: STATE
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1974/newtext/t19740146/aaaabruq.tel
Line Count: 171
Locator: TEXT ON-LINE
Office: ORIGIN COME
Original Classification: UNCLASSIFIED
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 4
Previous Channel Indicators:
Previous Classification: n/a
Previous Handling Restrictions: n/a
Reference: KUWAIT A-158, DECEMBER 9, 1973
Review Action: RELEASED, APPROVED
Review Authority: elyme
Review Comment: n/a
Review Content Flags:
Review Date: 22 FEB 2002
Review Event:
Review Exemptions: n/a
Review History: RELEASED <22 FEB 2002 by elbezefj>; APPROVED <19-Nov-2002 by elyme>
Review Markings:

Declassified/Released
US Department of State
EO Systematic Review
30 JUN 2005

Review Media Identifier:
Review Referrals: n/a
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
Secure: OPEN
Status: NATIVE
Subject: POWER/DESALINATION FACILITY IN QATAR
TAGS: EFIN, QA
To: KUWAIT
Type: TE
Markings: Declassified/Released US Department of State EO Systematic Review 30 JUN 2005